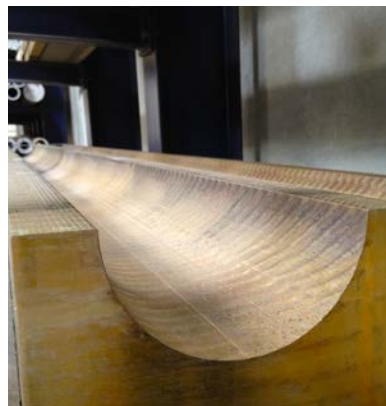
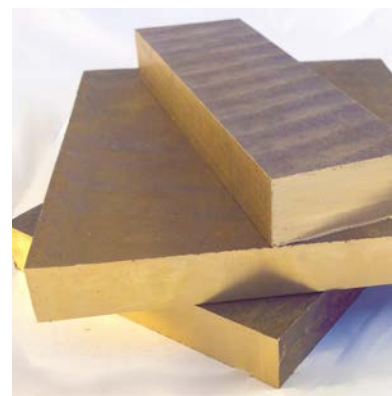


C95400 ALUMINUM BRONZE - 9C

The most popular, all purpose Aluminum Bronze Alloy



Typical Uses

Oil & Gas

Bearings, Bushings, Pump Seals, Wear Plates, Guides, Pipe Welding Back-up Shoes

Automotive

Guide Post Bushings, Stamping Dies, Valve Guides, Screw Jack Nuts, Conveyor Wear Strips

Construction Equipment

Bushings, Pivot Arm Bushing, Support Bushing, Hydraulic Cylinder, Back-Hoe, Suspension Parts

Fasteners

Large Hold Down Screws, Nuts

Gears

Worm Gears

Other Industrial

Amusement Park Brake Pads, Valve Seats, Pressure Blocks, Bearing Segments, Valves, Discs, Bushings, Machine Parts, Valve Bodies, Bearings, Worm Gears, Pump Parts, Spur Gears, High Strength Clamps, Pickling Hooks, Forging Press Ram Bushings, Pump Seals, Press Parts and Guides

Pipe Making

Tube Forming Rolls, Pipe Bending Dies, Pipe Mandrels

Marine

Covers for Marine Hardware, Bearings & Bushings, Pump Seals

Sizes Available from NBM

Solid Bar..... $\frac{1}{2}$ " - 16" diameter

Hollow Bar (Continuous Cast)..... $\frac{1}{2}$ " I.D. x 1" O.D. thru 14 I.D. x 16" O.D.

Hollow Bar (Centrifugal).....up to 24" O.D. (stock) / up to 100" O.D. special order

Wear Plate..... $\frac{1}{4}$ " x 12" thru 10" x 12"

Square Bar.....up to 10"

Hex Bar.....up to 4" A/F

Similar or Equivalent Specifications

Continuous

ASTM B-505

AMS 4871, 4873

SAE J461, J462

Centrifugal

ASTM B-271

ASME SB-271

SAE J462, J461



The Leading USA Manufacturer & Master Distributor of Brass, Bronze, & Copper Alloys

Round Bars

SIZE	LBS/IN	LBS/FT
3/8	0.042	0.504
1/2	0.069	0.828
5/8	0.103	1.236
3/4	0.143	1.716
7/8	0.190	2.280
1	0.243	2.916
1 1/8	0.303	3.636
1 1/4	0.370	4.440
1 3/8	0.443	5.316
1 1/2	0.522	6.264
1 5/8	0.609	7.308
1 3/4	0.702	8.424
2	0.907	10.884
2 1/4	1.140	13.680
2 1/2	1.398	16.776
2 3/4	1.683	20.196
3	1.994	23.928
3 1/4	2.382	28.584
3 1/2	2.750	33.000
3 3/4	3.145	37.740
4	3.565	42.780
4 1/4	4.081	48.972
4 1/2	4.558	54.696
4 3/4	5.062	60.744
5	5.593	67.116
5 1/4	6.150	73.800
5 1/2	6.732	80.784
6	8.155	97.860
6 1/4	8.825	105.900
6 1/2	9.521	114.252
7	10.992	131.904
7 1/4	11.767	141.204
7 1/2	12.659	151.908
8	14.251	171.012
8 1/2	16.039	192.468
9	17.993	215.916
10	22.037	264.444
11	26.564	318.768
12	31.513	378.156
13	36.890	442.680
14	42.679	512.148
15	48.896	586.752
16	55.535	666.420

Dimensions are in inches.
All weights are approximate.

Hollow Bars

SIZE	LBS/IN	LBS/FT
3/4 X 1 1/4	0.295	3.540
3/4 X 1 1/2	0.448	5.376
3/4 X 1 3/4	0.628	7.536
3/4 X 2	0.833	9.996
1 X 1 1/2	0.373	4.476
1 X 1 3/4	0.552	6.624
1 X 2	0.758	9.096
1 X 2 1/4	0.990	11.880
1 X 2 1/2	1.248	14.976
1 X 3	1.851	22.212
1 X 3 1/2	2.606	31.272
1 X 4	3.430	41.160
1 1/4 X 1 3/4	0.450	5.400
1 1/4 X 2	0.656	7.872
1 1/4 X 2 1/4	0.888	10.656
1 1/4 X 2 1/2	1.146	13.752
1 1/4 X 3	1.749	20.988
1 1/4 X 3 1/2	2.506	30.072
1 1/2 X 2	0.527	6.324
1 1/2 X 2 1/4	0.759	9.108
1 1/2 X 2 1/2	1.018	12.216
1 1/2 X 2 3/4	1.303	15.636
1 1/2 X 3	1.620	19.44
1 1/2 X 3 1/4	2.011	24.132
1 1/2 X 3 1/2	2.379	28.548
1 1/2 X 4	3.203	38.436
1 1/2 X 4 1/2	4.233	50.796
1 3/4 X 2 1/4	0.404	4.848
1 3/4 X 2 1/2	0.863	10.356
1 3/4 X 2 3/4	1.428	17.136
1 3/4 X 3	1.465	17.580
1 3/4 X 3 1/4	1.858	22.296
1 3/4 X 3 1/2	2.226	26.712
2 X 2 1/2	0.681	8.172
2 X 2 3/4	0.966	11.592
2 X 3	1.284	15.408
2 X 3 1/4	1.679	20.148
2 X 3 1/2	2.047	24.564
2 X 4	2.870	34.440
2 X 4 1/2	3.917	47.004
2 X 5	4.941	59.292
2 X 5 1/2	6.103	73.236
2 X 5 3/4	6.930	83.160
2 X 6	7.573	90.876
2 1/4 X 2 3/4	0.758	9.096
2 1/4 X 3	1.076	12.912

SIZE	LBS/IN	LBS/FT
2 1/4 X 3 1/4	1.473	17.676
2 1/4 X 3 1/2	1.841	22.092
2 1/2 X 3	0.842	10.104
2 1/2 X 3 1/4	1.240	14.880
2 1/2 X 3 1/2	1.608	19.296
2 1/2 X 3 3/4	2.003	24.036
2 1/2 X 4	2.432	29.184
2 1/2 X 4 1/2	3.496	41.952
2 1/2 X 5	4.531	54.372
2 1/2 X 6	7.170	86.040
2 3/4 X 3 1/4	0.981	11.772
2 3/4 X 3 1/2	1.349	16.188
2 3/4 X 3 3/4	1.744	20.928
3 X 3 1/2	1.064	12.768
3 X 4	1.888	22.656
3 X 4 1/4	2.492	29.904
3 X 4 1/2	2.970	35.640
3 X 5	4.004	48.048
3 X 5 1/2	5.576	66.912
3 X 6	6.661	79.932
3 X 7	9.497	113.964
3 X 8	12.690	152.280
3 1/4 X 4	1.576	18.912
3 1/4 X 4 1/4	2.190	26.280
3 1/2 X 4	1.238	14.856
3 1/2 X 4 1/4	1.860	22.320
3 1/2 X 4 1/2	2.338	28.056
3 1/2 X 5	3.372	40.464
3 1/2 X 5 1/2	4.524	54.288
4 X 4 1/2	1.600	19.200
4 X 5	2.634	31.608
4 X 5 1/2	3.786	45.432
4 X 6	5.325	63.900
4 X 7	8.162	97.944
4 X 8	11.421	137.052
4 X 9	15.103	181.236
4 1/2 X 5	1.791	21.492
4 1/2 X 5 1/2	2.943	35.316
4 1/2 X 6	4.499	53.988
5 X 5 1/2	1.994	23.928
5 X 6	3.567	42.804
5 X 6 1/2	4.933	59.196
5 X 7	6.404	76.848
5 X 7 1/2	7.981	95.772
5 X 8	9.663	115.956
5 X 9	13.345	160.140
5 X 10	17.449	209.388
5 1/2 X 6 1/2	3.896	46.752

SIZES NOT SHOWN MAY BE AVAILABLE UPON REQUEST.

SIZE	LBS/IN	LBS/FT
5 1/2 X 7 1/2	6.943	83.316
5 1/2 X 8	8.626	103.512
6 X 7	4.224	50.688
6 X 7 1/2	5.800	69.600
6 X 8	7.483	89.796
6 X 9	11.164	133.968
6 X 10	15.269	183.228
6 X 11	19.975	239.700
6 X 12	24.745	296.94
6 1/2 X 7 1/2	4.552	54.624
6 1/2 X 8	6.234	74.808
7 X 8	4.880	58.560
7 X 8 1/2	6.668	80.016
7 X 9	8.562	102.744
7 X 9 1/2	10.561	126.732
7 X 10	12.666	151.992
7 X 11	17.192	206.304
7 X 12	22.142	265.704
7 1/2 X 8 1/2	5.208	62.496
8 X 9	5.536	66.432
8 X 9 1/2	7.535	90.420
8 X 10	9.640	115.680
8 X 11	14.167	170.004
8 X 12	19.116	229.392
8 1/2 X 10 1/2	10.180	122.160
9 X 10	6.192	74.304
9 X 11	10.719	128.628
9 X 12	15.668	188.016
9 X 13	21.040	252.480
9 X 14	26.834	322.008
9 1/2 X 12	13.786	165.432
10 X 11	6.849	82.188
10 X 12	11.798	141.576
10 X 13	17.170	206.040
10 X 14	22.964	275.568
10 X 15	29.181	350.172
10 X 16	35.820	429.840
11 X 13	12.877	154.524
11 X 14	18.671	224.052
11 X 15	24.888	298.656
11 X 16	31.527	378.324
12 X 13	8.161	97.932
12 X 14	13.955	167.460
12 X 15	20.172	242.064
12 X 16	26.812	321.744
13 X 14	8.817	105.804
13 X 15	15.034	180.408
13 X 16	21.674	260.088

SIZE	LBS/IN	LBS/FT
14 X 16	16.113	193.356
14 X 17	23.175	278.100
14 X 18	30.659	367.908
15 X 18	24.676	296.112
16 X 18	18.27	219.240
17 X 18	11.442	137.304

Wear Plates & Rectangles

SIZE	LBS/IN	LBS/FT
1/4 X 1	0.097	1.164
1/4 X 1 1/2	0.142	1.704
1/4 X 2 1/2	0.231	2.772
1/4 X 3	0.276	3.312
1/4 X 4	0.368	4.416
1/4 X 12	1.092	13.104
3/8 X 1 1/2	0.195	2.340
3/8 X 2	0.256	3.072
3/8 X 2 1/2	0.318	3.816
3/8 X 3	0.379	4.548
3/8 X 6	0.765	9.180
3/8 X 12	1.503	18.036
1/2 X 1	0.170	2.040
1/2 X 1 1/2	0.248	2.976
1/2 X 1 3/4	0.287	3.444
1/2 X 2	0.326	3.912
1/2 X 2 1/2	0.405	4.860
1/2 X 3	0.483	5.796
1/2 X 4	0.644	7.728
1/2 X 6	0.974	11.688
1/2 X 12	1.914	22.968
5/8 X 4	0.783	9.396
5/8 X 6	1.182	14.184
3/4 X 1	0.242	2.904
3/4 X 1 1/2	0.354	4.248
3/4 X 2	0.466	5.592
3/4 X 4	0.921	11.052
3/4 X 8	1.839	22.068
3/4 X 12	2.735	32.82
1 X 1 1/4	0.388	4.656
1 X 1 1/2	0.461	5.532
1 X 2	0.606	7.272
1 X 3	0.898	10.776
1 X 4	1.198	14.376
1 X 6	1.809	21.708
1 X 12	3.556	42.672
1 1/4 X 1 1/2	0.567	6.804
1 1/4 X 2	0.746	8.952
1 1/4 X 2 1/2	0.926	11.112

SIZE	LBS/IN	LBS/FT
1 1/4 X 5	1.844	22.128
1 1/4 X 12	4.378	52.536
1 1/2 X 2	0.887	10.644
1 1/2 X 2 1/2	1.099	13.188
1 1/2 X 3	1.312	15.744
1 1/2 X 3 1/2	1.538	18.456
1 1/2 X 4	1.751	21.012
1 1/2 X 12	5.199	62.388
2 X 2 1/2	1.447	17.364
2 X 3	1.727	20.724
2 X 4	2.304	27.648
2 X 12	6.842	82.104
2 1/2 X 4	2.857	34.284
3 X 4	3.410	40.920
3 X 4 1/2	3.852	46.224
4 X 6	6.874	82.488
10 X 12	33.553	402.636

Hex Bars

SIZE	LBS/IN	LBS/FT
5/8 A/F	0.120	1.440
3/4 A/F	0.160	1.920
1 1/4 A/F	0.410	4.920
1 1/2 A/F	0.580	6.960
1 3/4 A/F	0.780	9.360
1 7/8 A/F	0.893	10.716
2 1/4 A/F	1.270	15.240
2 1/2 A/F	1.554	18.648
3 A/F	2.213	26.556
3 1/4 A/F	2.635	31.620
3 1/2 A/F	3.041	36.492
4 A/F	3.940	47.28

Square Bars

SIZE	LBS/IN	LBS/FT
3/4 SQ	0.190	2.300
1 SQ	0.315	3.780
1 1/4 SQ	0.478	5.736
1 1/2 SQ	0.680	8.130
2 SQ	1.170	14.090
2 1/2 SQ	1.800	21.600
3 SQ	2.560	30.670
3 1/2 SQ	3.520	42.240
4 SQ	4.550	54.650
5 SQ	7.120	85.450

C95400 ALUMINUM BRONZE - 9C

Chemical Composition, Tensile & Hardness, Physical Properties

Chemical Composition

	Cu	Al	Fe	Mn	Ni ⁽¹⁾
min/max	83.0	10.0-11.5	3.0-5.0	0.5	1.5
nominal	83.2	10.8	4.0	-	-

(1) Ni value includes Co.

NOTE: Cu +(sum of named elements) = 99.0% min.

Room Temp Tensile & Hardness Data

Casting Process	Temper	Tensile (KSI) Min	Yield (KSI) Min	Elongation In Hd Min	Brinell (3000 Kg)
Centrifugal	As Cast	75	30	12	150
	Heat Treated	90	45	6	190
Continuous	As Cast	85	32	12	170
	Heat Treated	95	45	10	220

Physical Properties

Melting Point - Liquidus °F.....	1900
Melting Point - Solidus °F.....	1880
Density lb/cu in @ 68 °F.....	0.269
Specific Gravity.....	7.45
Electrical Resistivity ohms-cmil/ft @ 68 °F.....	80.2
Electrical Conductivity % IACS @ 68 °F.....	13
Thermal Conductivity Btu/sq ft/ft hr/°F @ 68 °F.....	33.9
Coefficient of Thermal Expansion 10 ⁻⁶ per °F (68-212 °F).....	9.0
Specific Heat Capacity Btu/lb/°F @ 68 °F.....	0.1
Modulus of Elasticity in Tension ksi.....	15500
Machinability Rating.....	60%

The values listed on this document represent reasonable approximations suitable for general engineering use. Due to commercial variations in composition and to manufacturing limitations, they should not be used for specification purposes. See applicable A.S.T.M. Specification references.

USA/CANADIAN SALES
(713) 869-9600
sales@nbmmetals.com



EUROPEAN SALES
+33 494 109 386
info@nbmmetals.com



MEXICO SALES
521 81 19 11 29 58
ventas@nbmmetals.com

OTHER TERRITORIES
trading@nbmmetals.com